

Outline

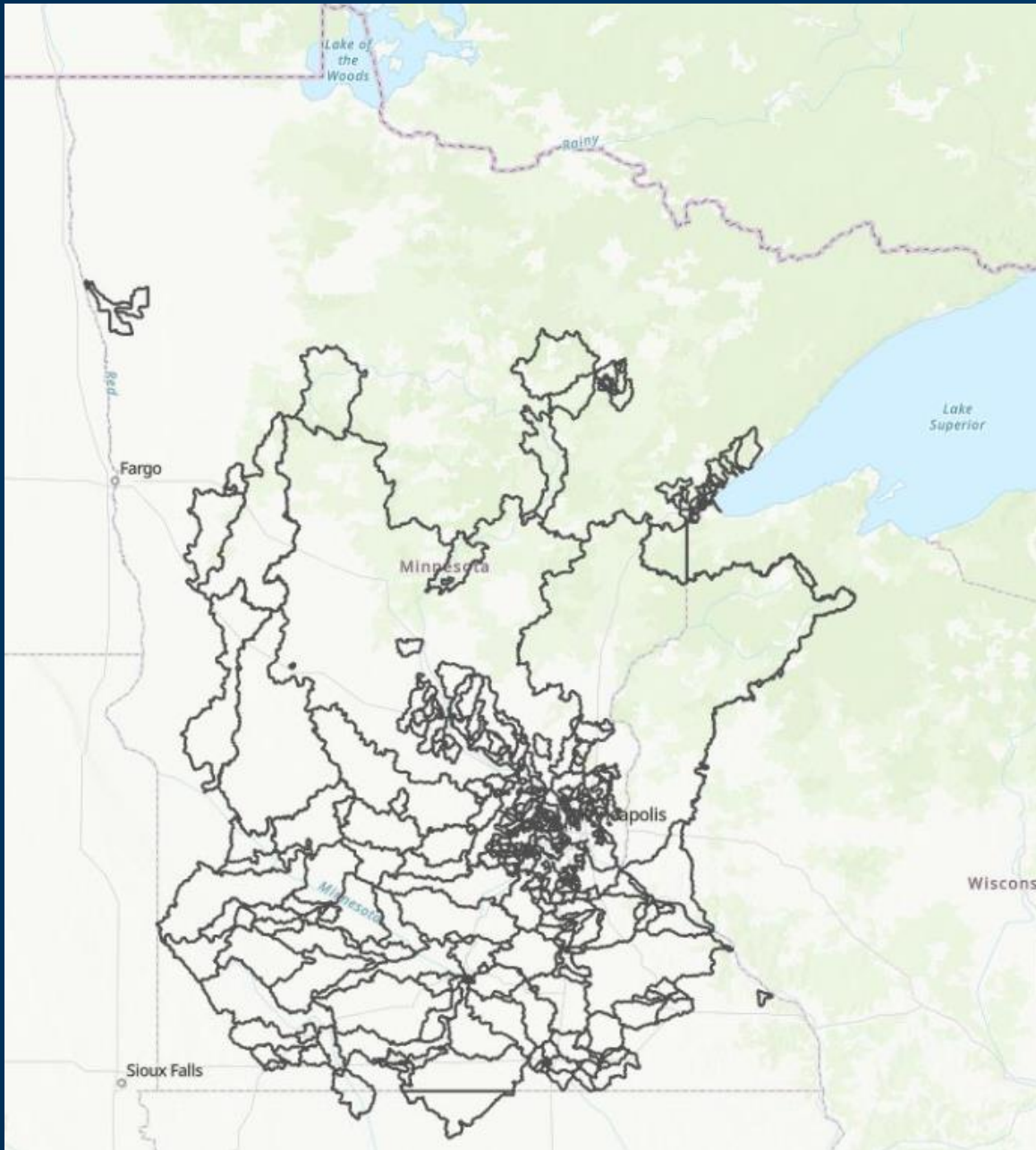
- **Intro to new MS4 Wasteload allocation geodatabase**
- TMDL permit items overview
- Annual reporting e-service
 - Update
 - BMP list deep dive
 - What you can expect
- 2025 Crystal ball
 - TMDLs approved since 2020 MS4 General Permit issuance

Wasteload allocation geodatabase

TMDL Project- waterbody- pollutant

EPA approved TMDLs with MS4
WLAs

495 lines of data

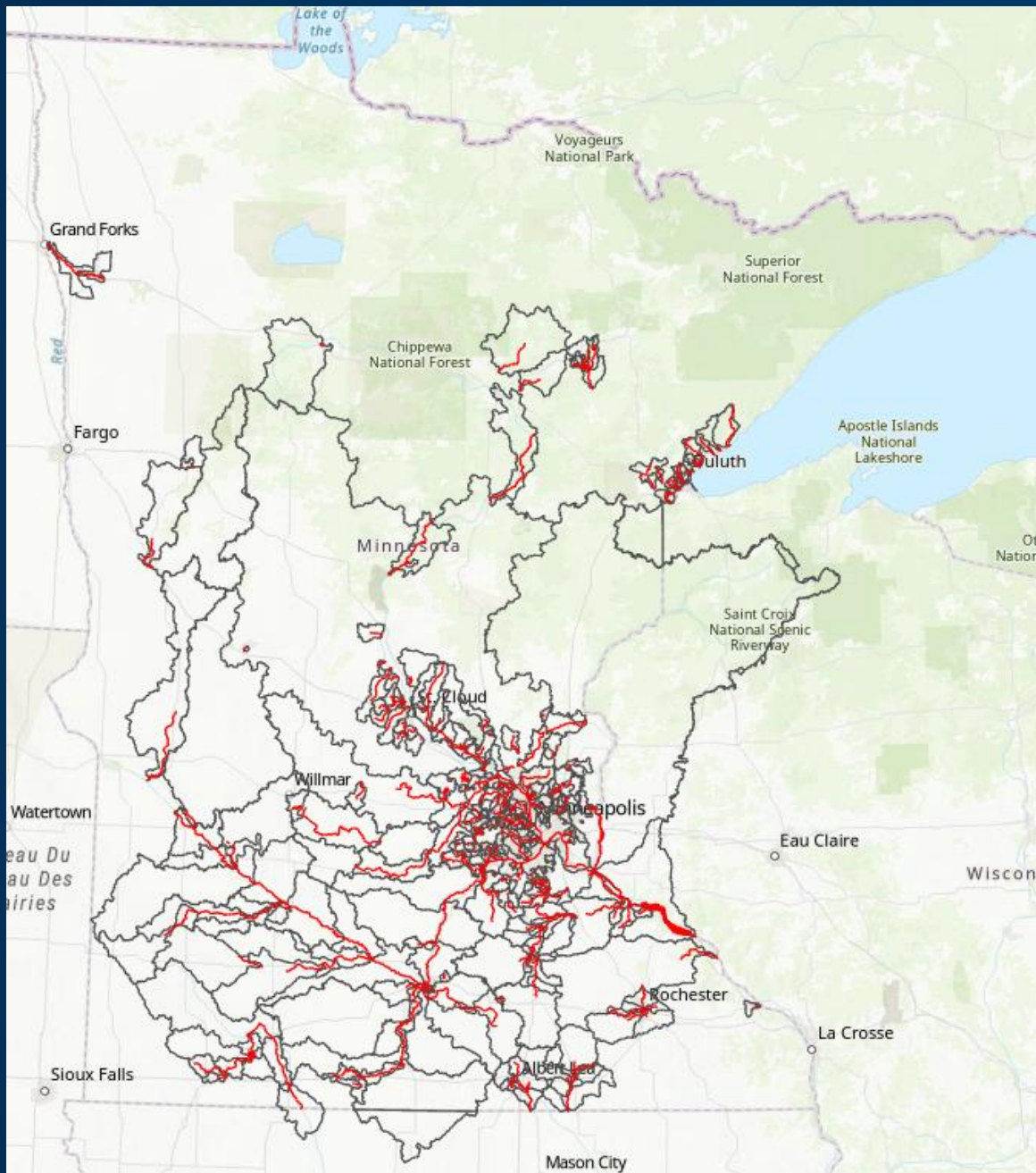


Wasteload allocation geodatabase

TMDL Project- waterbody- pollutant

EPA approved TMDL
(subwatersheds) with MS4 WLAs

495 lines of data for 410
waterbodies



Field Name	Definition	Definition Source
OBJECTID	Internal feature number	ESRI
Shape	Geometry object for the feature	ESRI
unique_id	A unique ID for each individual record, created by concatenating the TMDL Project ID, Assessment Waterbody ID, and Pollutant	MPCA
tmdl_project_id	The ID of the TMDL project as documented in TEMPO	MPCA
tmdl_project_name	The name of the TMDL project as documented in TEMPO	MPCA
pollutant	The pollutant to which the waste load allocation was assigned	MPCA
waterbody_name	The waterbody name of the impaired water to which the waste load allocation is assigned	MPCA
assessment_wid	The waterbody ID of the impaired water to which the waste load allocation is assigned	MPCA
major_watershed_name	The name of the HUC8 watershed in which the impaired waterbody is located.	MPCA
tmdl_report_url	A URL link to the TMDL report in which the waste load allocation was assigned.	MPCA
upstream_boundary_conditions	The upstream boundary condition (if applicable) that applies to the waste load allocation	MPCA
area_acres	The area (in acres) of the waste load allocation drainage area.	MPCA
tmdl_approval_date	The date the EPA approved the TMDL	MPCA
major_watershed_id	The ID of the HUC8 watershed in which the impaired waterbody is located.	MPCA
comments	Any additional comments from the MPCA	MPCA
baseline_year_conditions	When a baseline year was not explicitly stated in the TMDL, MPCA staff typically used the midpoint of the modeling period as the baseline year for this data set.	MPCA
Shape_Length	Length of the feature's geometry (perimeter for polygon geometry). Values are stored in the current projection's measurement unit (meters for UTM15N).	ESRI
Shape_Area	Area of the feature's geometry. Values are stored in the current projection's measurement unit (square meters for UTM15N).	ESRI


Coon Creek Watershed District WRAPS 2010




Wasteload allocation geodatabase


Coon Creek Watershed District
Total Maximum Daily Load (TMDL)
Mississippi River-Twin Cities Major Watershed

Quantification of the pollutant reductions necessary to restore aquatic life and recreation in Coon Creek, Sand Creek, Pleasure Creek and Springbrook Creek.





Minnesota Pollution Control Agency



CLEAN WATER LAND & LEGACY

wq-iw8-44e

April 2016

Wasteload allocation geodatabase

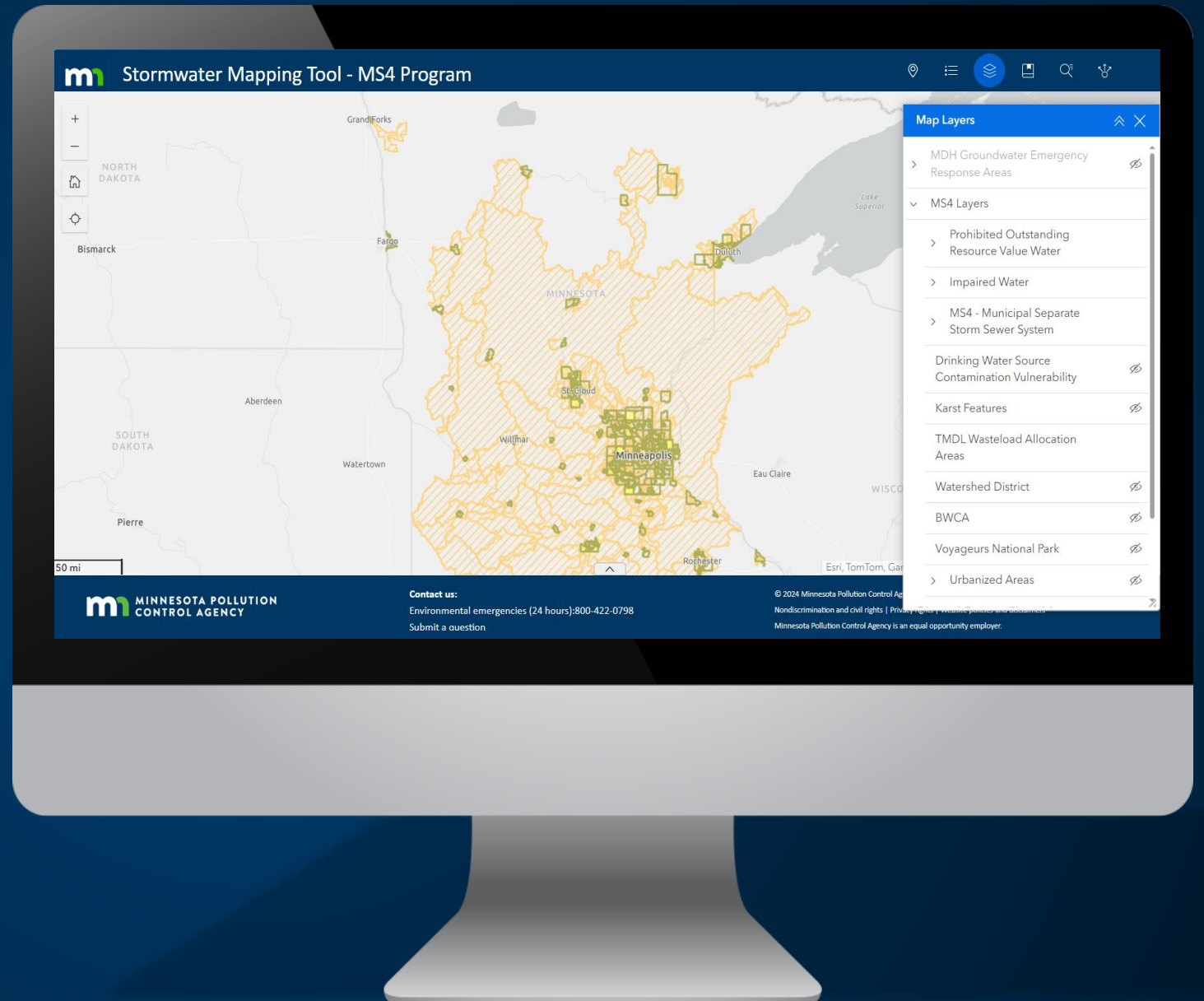
Unique ID *	TMDL Project ID	TMDL Project Name	Pollutant	Waterbody Name	Assessment Waterbody ID
PRJ07690-001_07010206-594_Solids, Total Suspended (TSS)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Solids, Total Suspended (TSS)	Unnamed ditch	07010206-594
PRJ07690-001_07010206-594_Phosphorus, Total (as P)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Phosphorus, Total (as P)	Unnamed ditch	07010206-594
PRJ07690-001_07010206-594_Escherichia coli	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Escherichia coli	Unnamed ditch	07010206-594
PRJ07690-001_07010206-557_Escherichia coli	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Escherichia coli	County Ditch 17	07010206-557
PRJ07690-001_07010206-557_Phosphorus, Total (as P)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Phosphorus, Total (as P)	County Ditch 17	07010206-557
PRJ07690-001_07010206-558_Solids, Total Suspended (TSS)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Solids, Total Suspended (TSS)	Sand Creek	07010206-558
PRJ07690-001_07010206-558_Phosphorus, Total (as P)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Phosphorus, Total (as P)	Sand Creek	07010206-558
PRJ07690-001_07010206-558_Escherichia coli	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Escherichia coli	Sand Creek	07010206-558
PRJ07690-001_07010206-530_Solids, Total Suspended (TSS)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Solids, Total Suspended (TSS)	Coon Creek	07010206-530
PRJ07690-001_07010206-530_Phosphorus, Total (as P)	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Phosphorus, Total (as P)	Coon Creek	07010206-530
PRJ07690-001_07010206-530_Escherichia coli	PRJ07690-001	Coon Creek Watershed District WRAPS 2010	Escherichia coli	Coon Creek	07010206-530

Wasteload allocation geodatabase


- [Additional resources for completing the TMDL form - Minnesota Stormwater Manual](#)

No GIS capability?

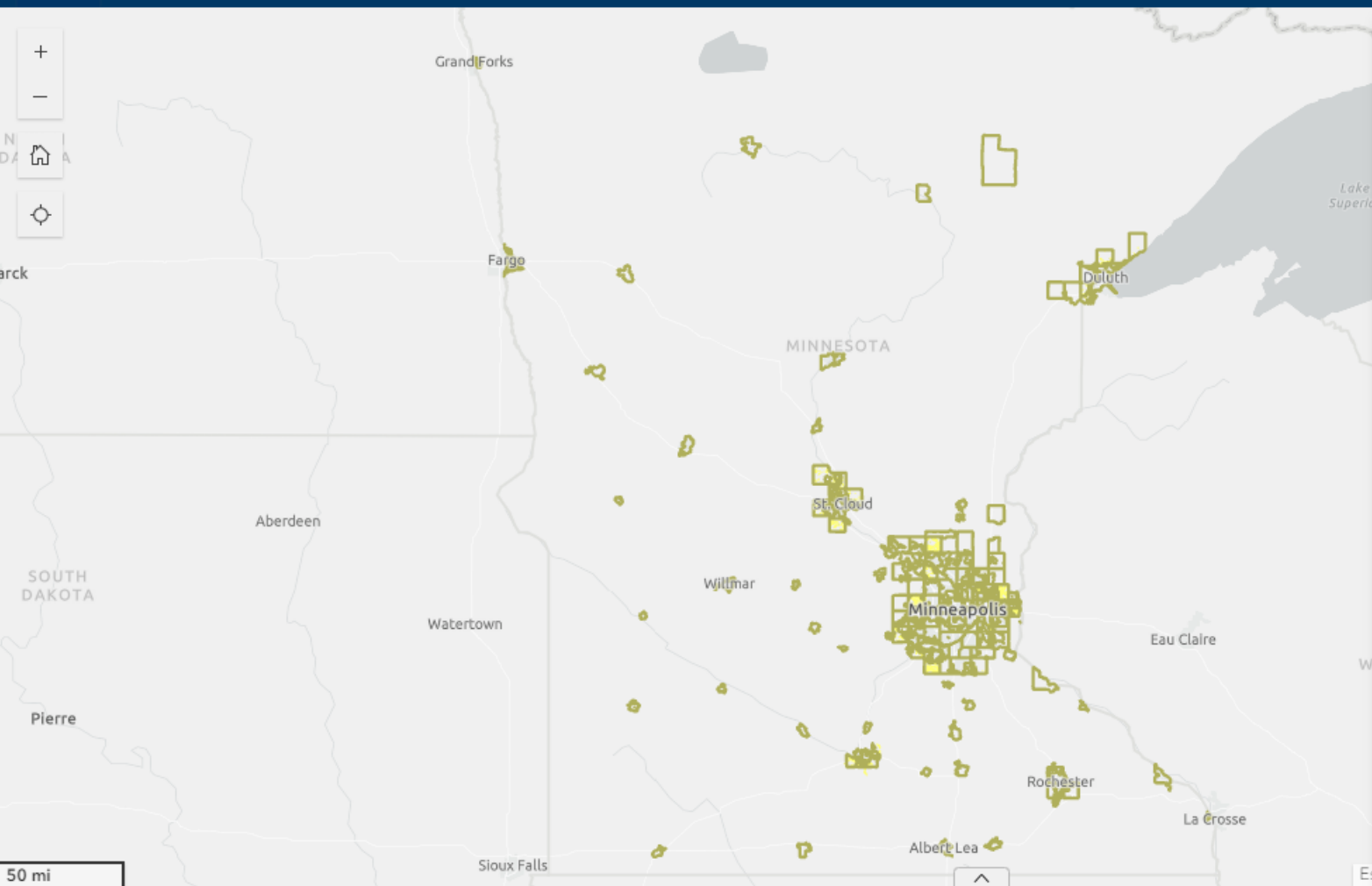
- Stormwater Mapping Tool
 - Updated to reflect 2020 permit
 - Includes new TMDL geodatabase



Updated Stormwater Mapping Tool



Stormwater Mapping Tool - MS4 Program



About

Welcome to the MS4 Mapping Tool.

The [MS4 permitting program](#) gives owners or operators of municipal separate storm sewer systems approval to discharge stormwater to lakes, rivers and wetlands in Minnesota. It requires owners to establish a stormwater pollution prevention program that includes public education, illicit discharge elimination, construction-site runoff controls, and stormwater best management practices.

The primary goal of the MS4 general permit is to improve water quality by reducing pollutants in stormwater discharges. Specifically, the program aims to ensure proper management of stormwater discharges into waters of the state.

Find regulated MS4s, [Prohibited Outstanding Resource Value Waters](#), [drinking water sources for protection](#), and identify impaired waters and study areas for restoration.

Click on MS4s, water bodies and drinking water source management areas for more information and links to the [MS4 General Permit](#).

For additional information on municipal stormwater management visit the [Minnesota Stormwater Manual](#).


Contact Us:

Environmental emergencies (24 hours):

800-422-0798

[Sign up for email newsletters](#)

[Submit a question](#)



MINNESOTA POLLUTION CONTROL AGENCY

Contact us:

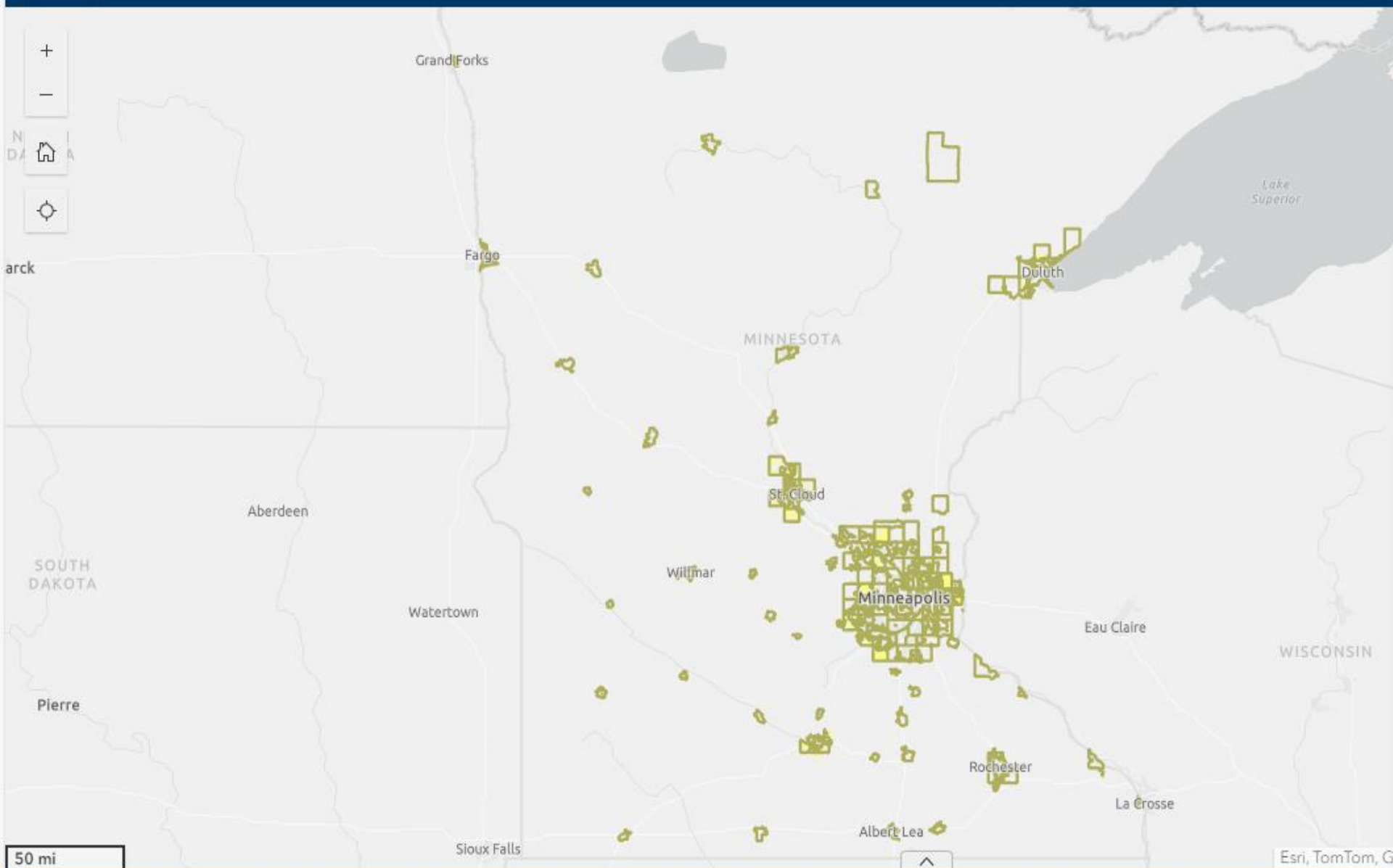
Environmental emergencies (24 hours):800-422-0798

[Submit a question](#)

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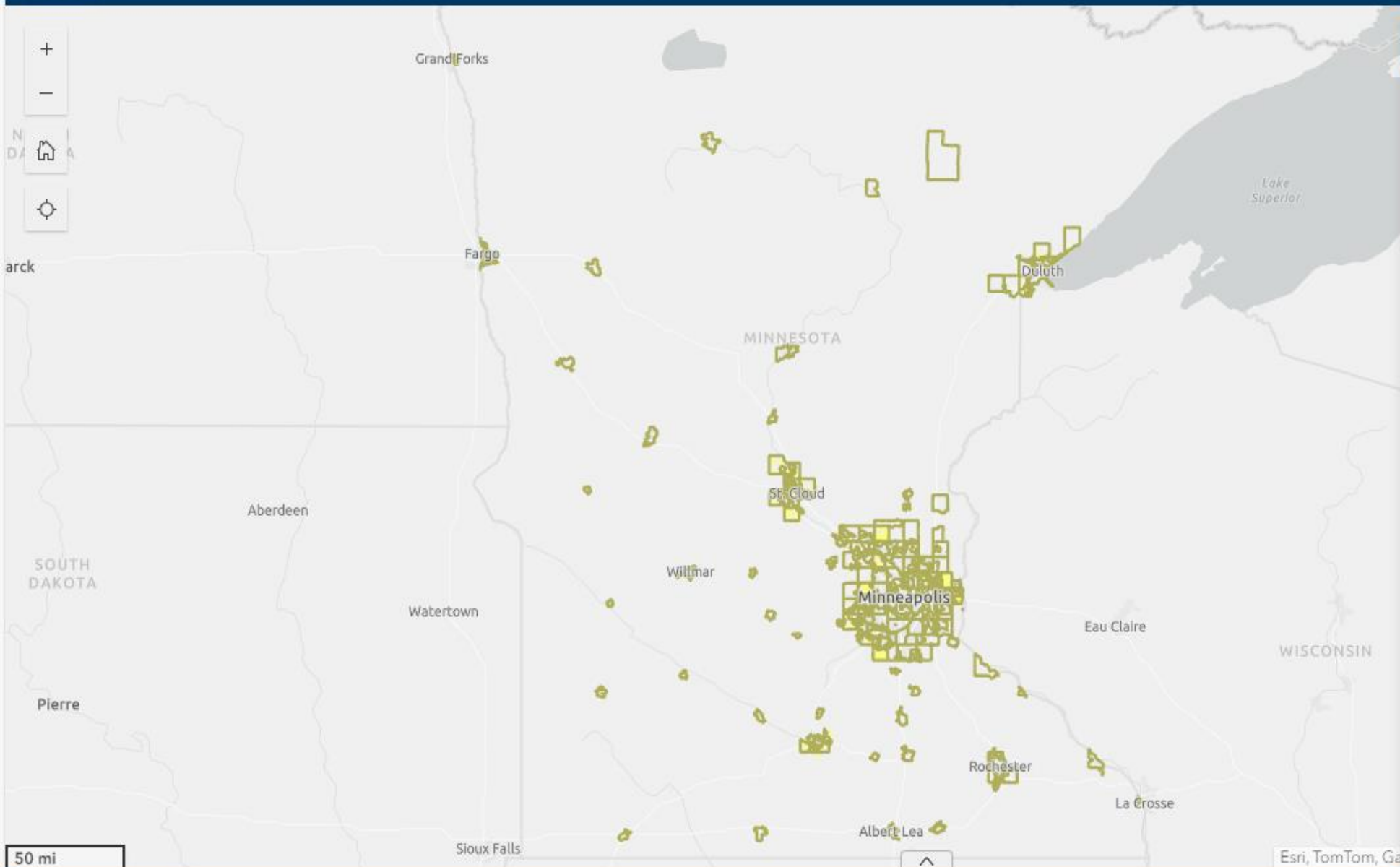
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Map Layers



- > MDH Groundwater Emergency Response Areas
- > MS4 Layers
- Olmsted County - Platted Areas
- > CSW permit requirement special waterbodies
- > Reference layers



Map Layers

> MDH Groundwater Emergency Response Areas

MS4 Layers

> Prohibited Outstanding Resource Value Water

> Impaired Water

> MS4 - Municipal Separate Storm Sewer System

Drinking Water Source Contamination Vulnerability

Karst Features

TMDL Wasteload Allocation Areas

Watershed District

BWCA

Voyageurs National Park

> Urbanized Areas

Olmsted County - Platted Areas

> CSW permit requirement special waterbodies

Search

MS4 permit number or city

Stormwater Manual...

Other favorites

Search

saint

Search

saint

MS4 - City or Township

Saint Anthony Village MS4

Saint Augusta City MS4

Saint Bonifacius City MS4

Saint Cloud City MS4

Saint Francis City MS4

Saint Joseph City MS4

MS4 - County

Municipal Separate Storm Sewer

https://experience.arcgis.com/experience/05cd9bcb10d5484f8326f7ef8...

Welcome to the Te... 7050 - Minnesota A... Google Maps Minnesota Pollution... Office 365 Login Mi... Minnesota Service... Other favorites

Stormwater Mapping Tool - MS4 Program

Search

Saint Cloud City MS4

Search result

Saint Cloud City MS4

MS4 - City or Township: Saint Cloud City MS4

Zoom to

MS4 Name: Saint Cloud City MS4
Permit ID: MS400052

MS4 permit number MS400052 is a City or Township MS4.

See the MS4 General Permit for more information.

Grand Forks

Fargo

Aberdeen

Watertown

Willmar

St. Cloud

Minneapolis

Eau Claire

Rochester

La Crosse

Albert Lea

Sioux Falls

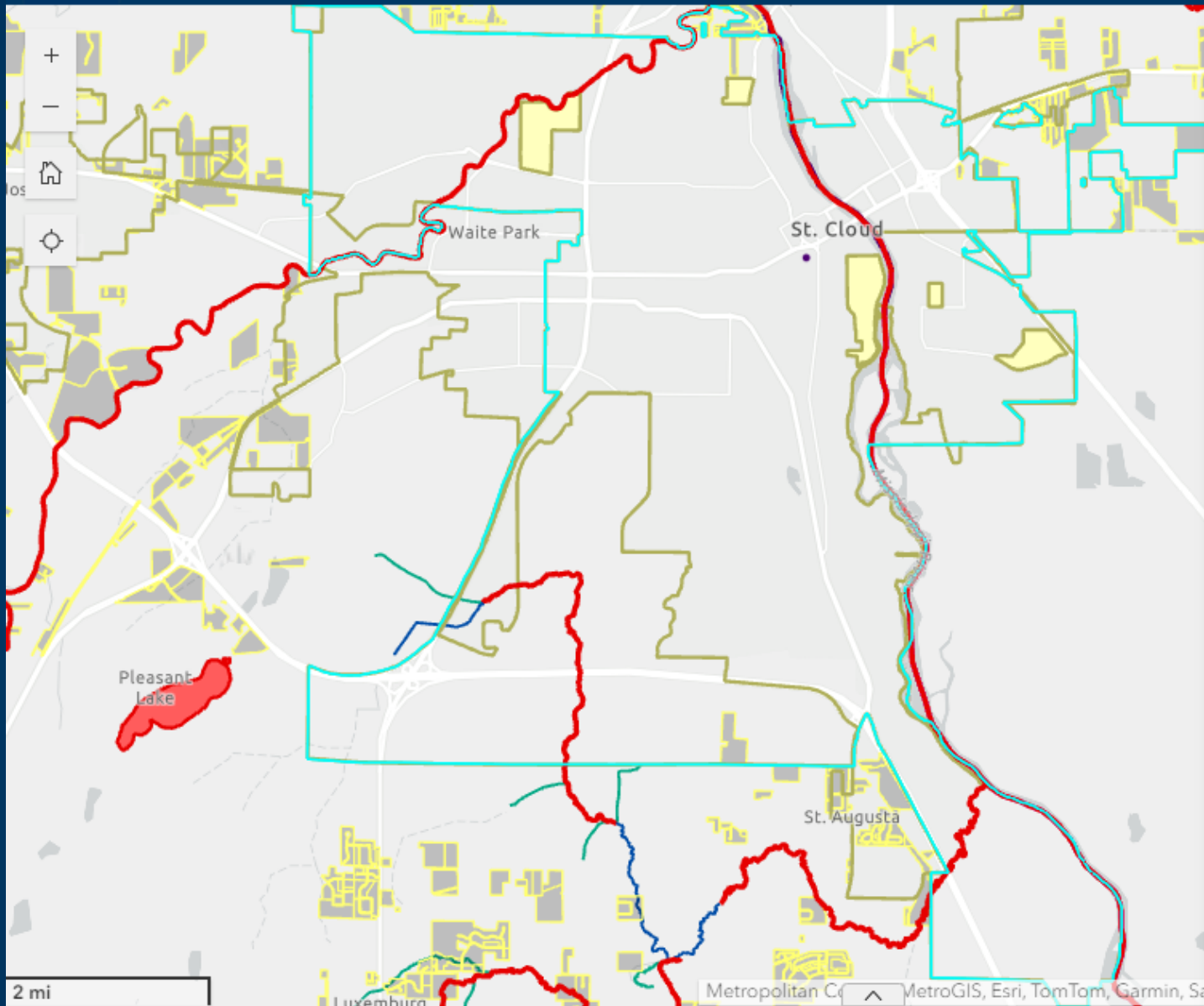
50 mi

Esri, TomTom, Garmin

MINNESOTA POLLUTION CONTROL AGENCY

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Submit a question

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Legend

MS4 Layers

Prohibited Outstanding Resource Value Water

ORW - Stream

Prohibited

ORW - Lake

Prohibited

Scientific and Natural Area



Impaired Water

Impaired Streams



Impaired Lakes



Impaired Wetlands



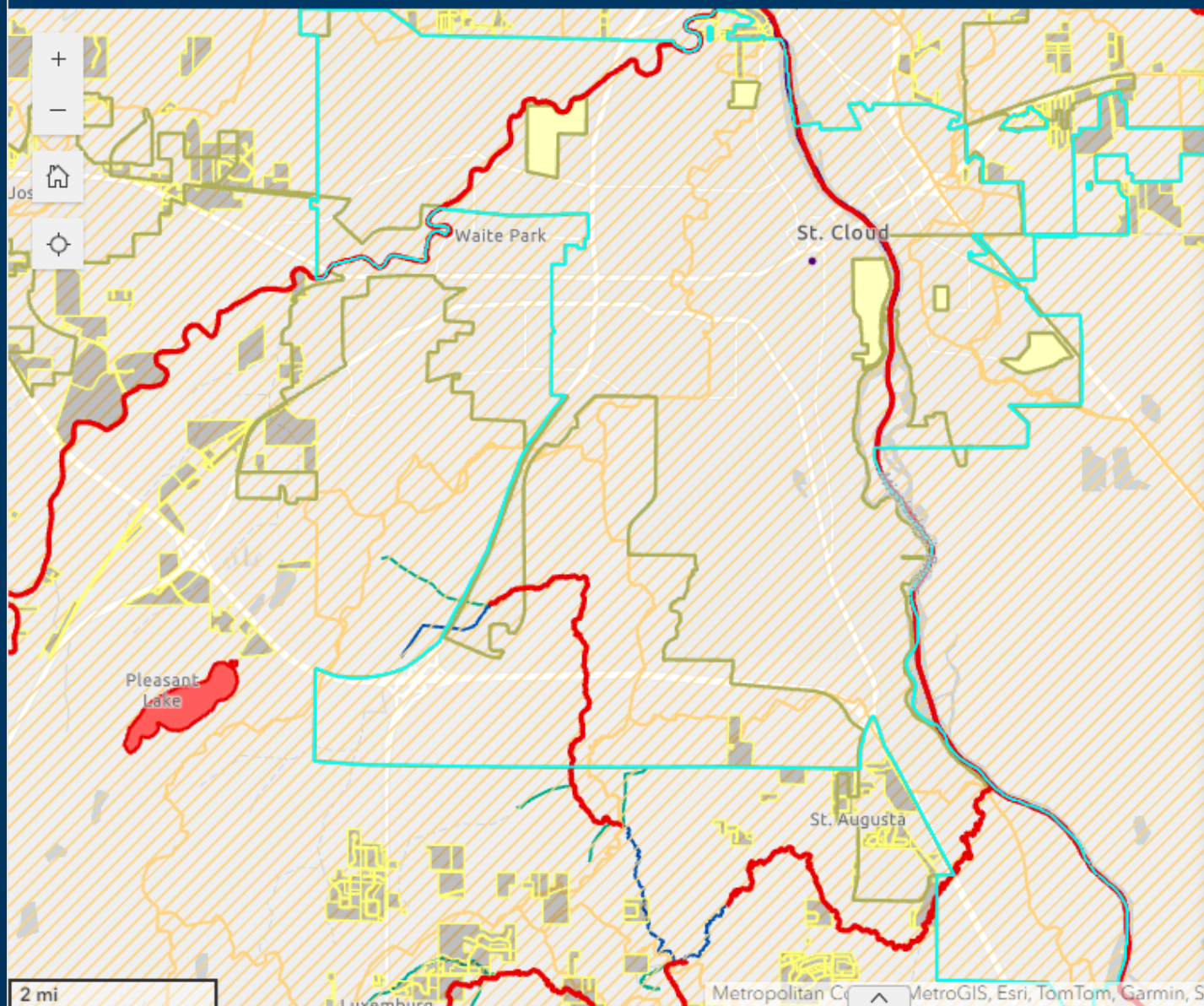
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Contact us:

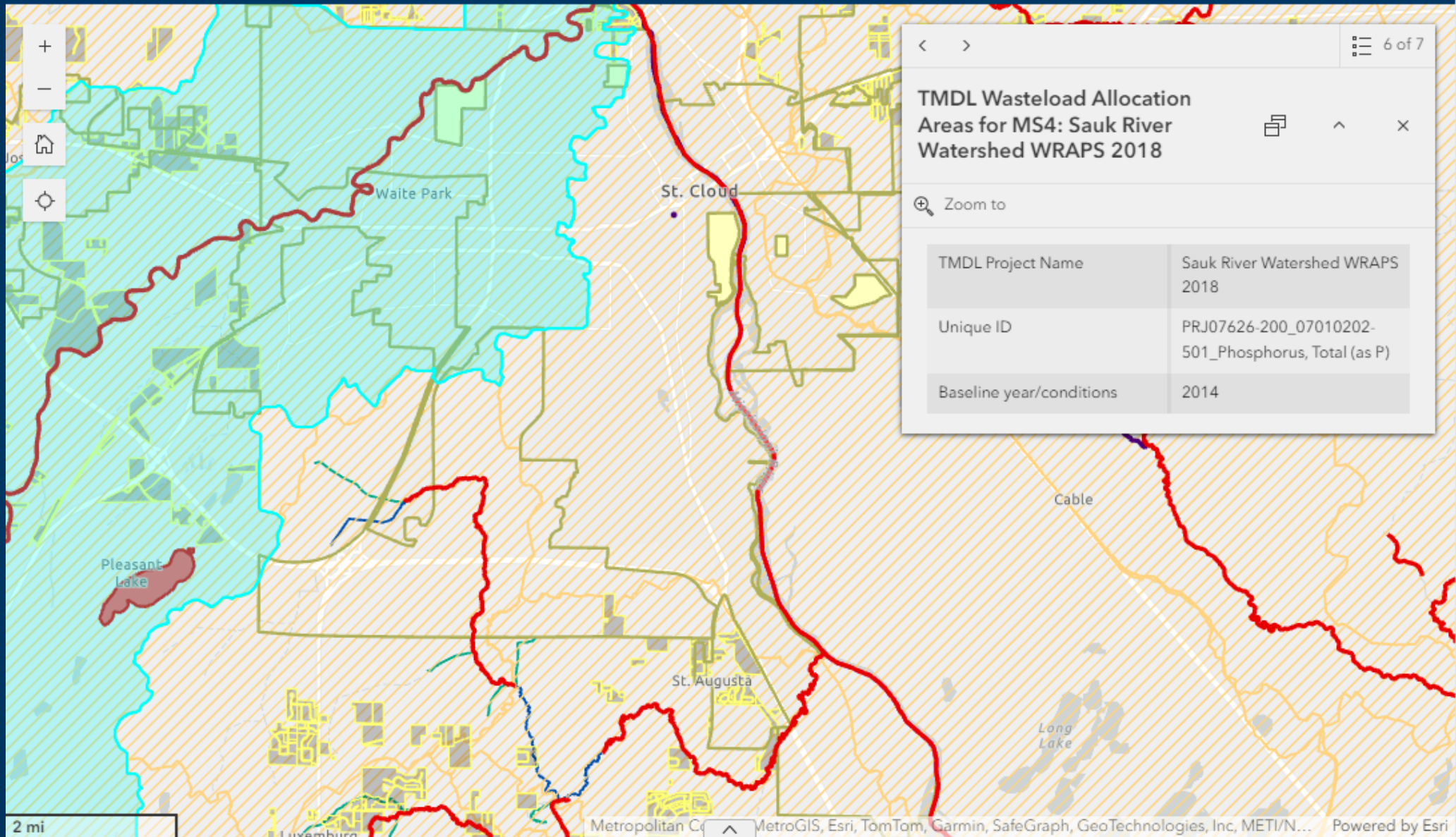
Environmental emergencies (24 hours): 800-422-0798

[Submit a question](#)



Map Layers

- > MDH Groundwater Emergency Response Areas
- ✓ MS4 Layers
 - > Prohibited Outstanding Resource Value Water
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 - > MS4 - Municipal Separate Storm Sewer System
- Drinking Water Source Contamination Vulnerability
- Karst Features
- TMDL Wasteload Allocation Areas
- Watershed District
- BWCA
- Voyageurs National Park
- > Urbanized Areas
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- > CSW permit requirement special waterbodies

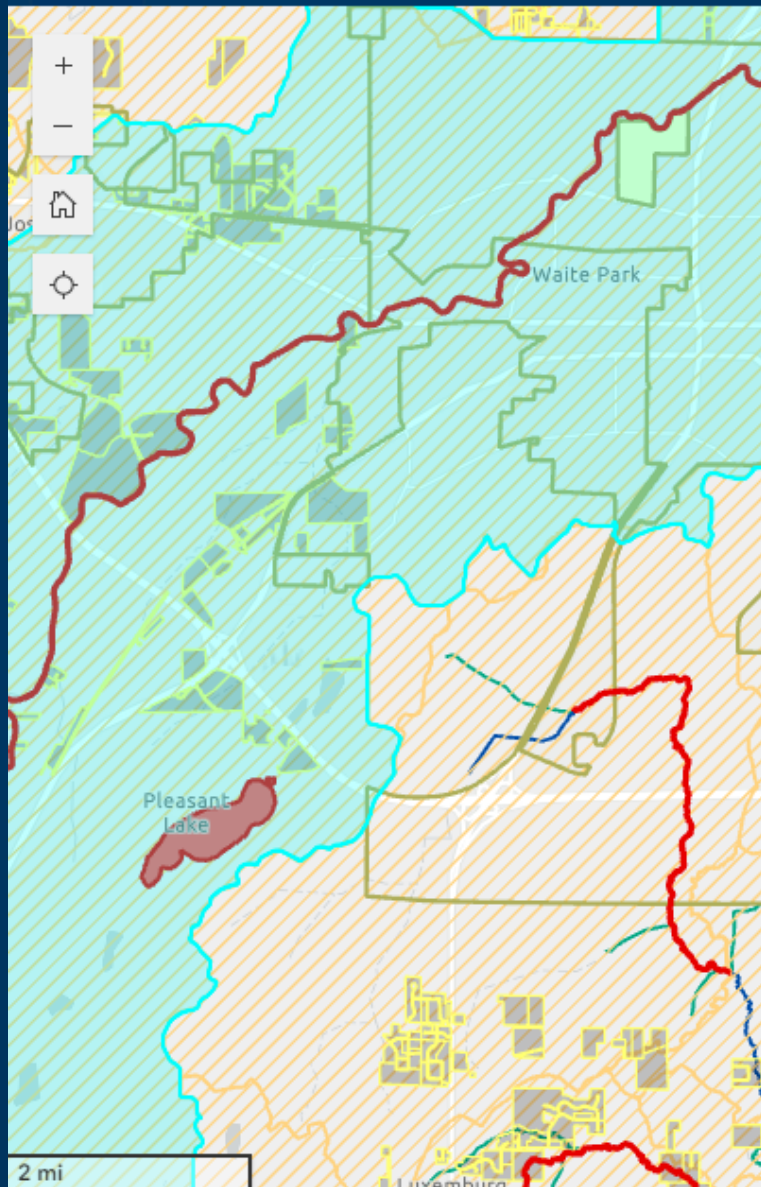


< > 6 of 7

TMDL Wasteload Allocation Areas for MS4: Sauk River Watershed WRAPS 2018

Zoom to

TMDL Project Name	Sauk River Watershed WRAPS 2018
Unique ID	PRJ07626-200_07010202-501_Phosphorus, Total (as P)
Baseline year/conditions	2014



<

Select feature

Total: 7

Impaired Streams

Impaired Streams: Sauk River

Streams

Delisted Stream: new data

MS4 - City or Township

MS4 - City or Township: Saint Cloud City MS4

MS4 - County

MS4 - County: Stearns County MS4

MS4 - MNDOT

MS4 - MNDOT: MNDOT Outstate District MS4

TMDL Wasteload Allocation Areas

TMDL Wasteload Allocation Areas for MS4: Sauk River Watershed WRAPS 2018

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Sauk River Watershed WRAPS 2018

PRJ07626-200_07010202-501_Phosphorus, Total (as P) 2014

Outline

- Intro to new MS4 Wasteload allocation geodatabase
- **Annual reporting e-service**
 - **Update**
 - **What you can expect**
 - **BMP list deep dive**
- 2025 Crystal ball
 - TMDLs approved since 2020 MS4 General Permit issuance

2020 MS4 General Permit –Reporting



~~Due June 30, 2023~~ **Postponed**

- Reporting for calendar year **2022 activities**, based on 2020 permit requirements

~~• Due June 30, 2024~~ **Postponed**

- Reporting for calendar year **2023 activities**, based on 2020 permit requirements

Due June 30, 2025? - **Postponed**

- Reporting for calendar year **2024 activities**, based on 2020 permit requirements

2020 MS4 General Permit –Reporting

Structure

- Performance based pollutants (bacteria, chloride, temperature)
- Compliance Schedule BMP status
- Ongoing and Completed BMP entry

2020 MS4 General Permit –Reporting

Bacteria:

- Do you have an inventory/map?
- Do you have a written plan that prioritizes bacteria reducing BMPS?

Chloride:

- Amount of Deicer used
- Did you complete an assessment of your winter maintenance operations?

Temperature:

- Do you have a written plan to reduce thermal loading?



2020 MS4 General Permit –Reporting

What has been migrated to Tempo?

- Compliance schedule BMPs from 2020 TMDL application
- BMPS previously reported under 2013 permit
 - Annual completed items will not be displayed (education, outreach, etc)

2020 MS4 General Permit –Reporting

Compliance schedule BMPs

They will display as “Proposed” and you will have to update the status via a drop-down box as appropriate.

Example: Constructed basin- wet pond with compliance schedule date of 2024

- Was built in 2024.
- Permittee changes status to “Active”
- That will move it to a different screen where permittee will fill in the rest of the required information

2020 MS4 General Permit –Reporting

Compliance schedule BMPs

They will display as “Proposed” and you will have to update the status via a drop-down box as appropriate.

Example: Constructed basin- wet pond with compliance schedule date of 2024

- City Council refused to fund it
- Permittee changes status to “Never built”
- Must provide an explanation

2020 MS4 General Permit – Reporting

- The Annual report E- service is based on BMP
- Enter a BMP, all the other associated information

MPCA ID	MPCA ID- non editable
BMP Type	Selected by permittee (drop down)
BMP Sub-Type	Selected by permittee (drop down)
BMP ID	Permittee ID - text
BMP Description	Permittee BMP description- text
Compliance Schedule BMP	Yes/No (Automatic)
Are you partnering on this BMP with another MS4?	Yes/No
Coordinate System	Drop down
Latitude	Latitude for BMP (required for SS)
Longitude	Longitude for BMP (required for SS)
Collection Date	Date
Collection Method	Drop down
Reference Point	Drop down
Comments	Permittee Text - optional

- Then select TMDL- pollutant that it applies to



BMP List Categories

• Old BMP List Categories:

Constructed basin
Filter
Infiltrator
Swale_or_strip
Stormwater reuse
Manufactured device
BMP improvement/enhancement/retrofitting
Supplemental street sweeping
Chemical treatment of stormwater
Eliminate illicit discharge/connection
Establish ordinance
Impervious disconnection
Improved lawn care practices
Improved turf/vegetation/soil
Supplemental employee education/training
Supplemental public education/outreach
Supplemental street sweeping
Enhanced road salt management

New BMP List Categories (now called Types):

Constructed basin
Filtration
Infiltration
Stormwater harvest and reuse
Supplemental street sweeping
Chemical treatment of Stormwater
Eliminate illicit discharge/connection (that existed prior to baseline year of TMDL)
Establish or enhance ordinances
Impervious disconnection
Pollution Prevention-Municipal
Enhanced deicing salt management

BMP List example

- Old BMP List Example/Terminology:

Constructed basin	BMP Category
Dry pond/dry detention pond	BMP Description
Flow through pond	BMP Description
Forebay	BMP Description
Gravel wetland	BMP Description
Multiple pond system	BMP Description
Pond/wetland system	BMP Description
Wet pond/wet detention pond	BMP Description
Wetland	BMP Description

New BMP List Example/Terminology:

Constructed basin	BMP Type
Wet pond/wet detention pond	BMP Subtype
Constructed Wetland	BMP Subtype
Other (must describe)	BMP Subtype

Removed BMP List Categories

BMP Category (2013 General Permit)	BMP Type (2020 MS4 General Permit)
BMP improvement/enhancement/retrofitting	N/A
Manufactured device	N/A
Supplemental employee education/training	N/A
Swale_or_strip	N/A

Removed/Revised BMP List Descriptions

Previous BMP Descriptions that are no longer used for reporting progress

Reason they are no longer being included

Portable flocculation system	*BMP Expansion- Addition of chemical to a structural BMP
Dry pond/dry detention pond	Dry ponds do not receive credit for pollutant removal
BMP expansion	Included as an additional field for certain practices
BMP improvement	Included as an additional field for certain practices
Drain inlet insert	Included under Filtration as 'Manufactured Treatment Device' (if it is used as primary treatment); otherwise no longer its own BMP Description
Geocells	
Grit chamber	
Gross pollutant trap	
Hood	
Hydrodynamic separator	
Manufactured filter	
Oil/grit separator	
Pollutant trap	
SAFL Baffle	
SAFL Baffle sump manhole	
Sump	
Sump manhole	
Swirl separator	
Water quality inlet	

Removed/Revised BMP List Descriptions

Previous BMP Descriptions that are no longer used for reporting progress	Reason they are no longer being included
Contaminant source inventory	2020 MS4 Permit Requirement
Employee education	2020 MS4 Permit Requirement
Staff training	2020 MS4 Permit Requirement
BMP maintenance	2020 MS4 Permit Requirement
Clean and repair stormwater structures	2020 MS4 Permit Requirement
Clean pipe and culverts	2020 MS4 Permit Requirement
Ditch cleaning	2020 MS4 Permit Requirement
Erosion repairs	2020 MS4 Permit Requirement
Inspection	2020 MS4 Permit Requirement
Repair and line pipes and culverts	2020 MS4 Permit Requirement
Increased implementation of illicit discharge detection and elimination ordinance	2020 MS4 Permit Requirement
Pet waste (ordinance)	2020 MS4 Permit Requirement
Erosion and sediment control (ordinance)	2020 MS4 Permit Requirement
Stormwater control operation and maintenance (ordinance)	2020 MS4 Permit Requirement
Illicit discharges	2020 MS4 Permit Requirement
Post construction controls (ordinance)	2020 MS4 Permit Requirement
Salt management	2020 MS4 Permit Requirement
Salt storage	2020 MS4 Permit Requirement
Sand storage	2020 MS4 Permit Requirement
Winter maintenance education	2020 MS4 Permit Requirement

2020 MS4 General Permit –Reporting

New BMPs: Ongoing vs Completed

Ongoing- usually permanent/structural, must quantify pollutant reductions

The following section applies to BMPs in areas that discharge to impaired waters with a USEPA-approved TMDL that includes an applicable WLA. Enter BMPs with quantifiable pollutant reduction loads. Unless the pollutant reduction value changed from a previous reporting year due to an improvement installed this reporting year (e.g., BMP expansion, enhancement, etc.), BMP information should only be entered one time, and not annually.”

Completed – activities; must be entered annually

The following section applies to BMPs in areas that discharge to impaired waters with a USEPA-approved TMDL that includes an applicable WLA. These BMPs must be entered each reporting year and include BMPs with variable pollutant reductions such as street sweeping; or non-structural BMPs such as ordinances and pollution prevention efforts.”

2020 MS4 General Permit –Reporting

New BMPs: Ongoing

Choose a BMP Type from the drop down:

BMP Types- 2020 General Permit	Annual Report E-service Notes
Constructed basin	Have to report quantitative reduction in pounds for TP or TSS Location information required for each BMP Once BMP information is entered in the E-service, it doesn't need to be entered again.
Filtration	
Infiltration	
Stormwater harvest and reuse	

2020 MS4 General Permit –Reporting

New BMPs: Ongoing



Choose a BMP Subtype from the drop down:

Enter your unique BMP ID and Description

Enter the year it was implemented

Are you partnering with another MS4?

- Quantitative Reduction Value claimed by your MS4 for this BMP –

BMP Types 	BMP Subtypes 
Constructed basin	Wet pond/wet detention pond
Constructed basin	Constructed Wetland
Constructed basin	Other (must describe)



2020 MS4 General Permit – Annual Reporting-Quantitative Reductions

Quantitative Reduction Value claimed by your MS4 for this BMP –	<ul style="list-style-type: none"> ○ Phosphorus, Total (as P) ○ Solids, Total Suspended (TSS) ○ Nitrogen, Nitrate, Total (as N) ○ Escherichia coli ○ Fecal Coliform
Pollutant	
Quantitative Reduction Value claimed by your MS4 for this BMP –	Amount
Quantitative Reduction Value claimed by your MS4 for this BMP –	<ul style="list-style-type: none"> ○ Escherichia coli: percent ○ Fecal Coliform: percent ○ Phosphorus, Total (as P): pounds per year ○ Solids, Total Suspended (TSS): pounds per year ○ Nitrogen, Nitrate, Total (as N): percent
Units	
Quantitative Reduction Value claimed by your MS4 for this BMP –	<ul style="list-style-type: none"> ○ P8 ○ WinSLAMM ○ MIDS ○ MPCA tool (Simple Estimator, Street Sweeping Calculator or MTDS crediting tool) ○ Other
Calculation Method	
Calculation Method	If other method, describe



New BMPs: Ongoing Location

Can either use E-service map to navigate to location or enter fields manually.



BMP Types 	BMP Subtypes 
Constructed basin	Wet pond/wet detention pond
Constructed basin	Constructed Wetland
Constructed basin	Other (must describe)

Coordinate System
Latitude
Longitude
Collection Date
Collection Method
Reference Point
Comments

2020 MS4 General Permit –Reporting

New BMPs: Ongoing

Last step: Choose TMDL
project-pollutant from drop
down

BMP Types 	BMP Subtypes 
Constructed basin	Wet pond/wet detention pond
Constructed basin	Constructed Wetland
Constructed basin	Other (must describe)

01. Permittee name

Coon Creek Watershed
District

TMDL Project- Pollutant

Coon Creek Watershed District WRAPS 2010 - Escherichia coli

Coon Creek Watershed District WRAPS 2010 - Phosphorus, Total (as P)

Coon Creek Watershed District WRAPS 2010 - Solids, Total Suspended (TSS)

Lake Pepin, Mississippi River, and Minnesota River Eutrophication TMDL - Phosphorus, Total (as P)

South Metro Mississippi TSS TMDL - Solids, Total Suspended (TSS)

Adding a new Ongoing BMP

Coon Creek TMDL example

Starred location is a BMP

E.coli & Phosphorus – whole watershed

Total Suspended Solids – blue outlined watershed

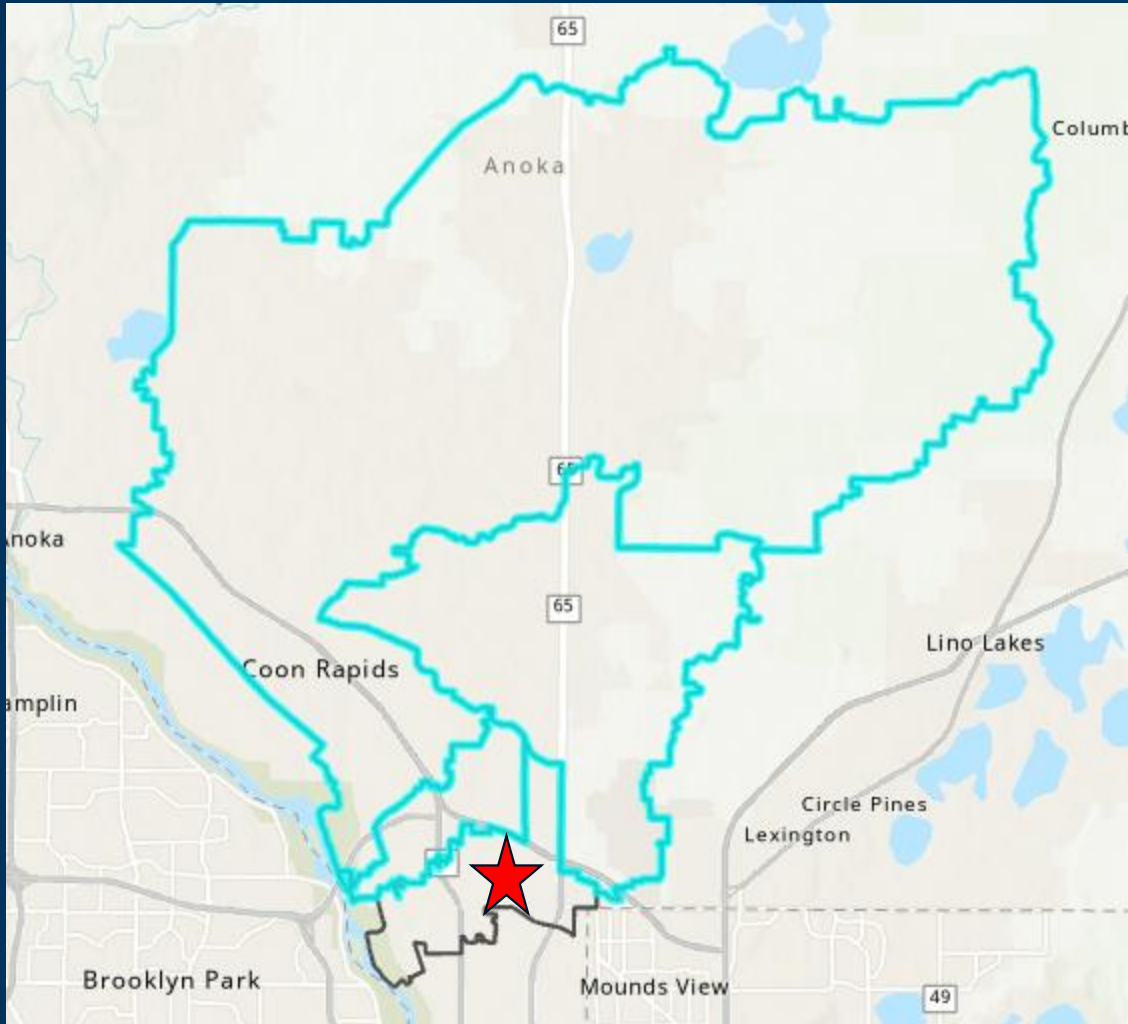
In the E-service that BMP would be assigned to:

Coon Creek Watershed WRAPS 2010- E.coli

Coon Creek Watershed WRAPS 2010- Total Phosphorus

Lake Pepin, Mississippi River, and Minnesota River
Eutrophication TMDL - Phosphorus, Total (as P)

South Metro Mississippi TSS TMDL - Solids, Total
Suspended (TSS)



2020 MS4 General Permit –Reporting

New BMPs: Completed

BMP Types- 2020 General Permit	Annual Report E-service Notes
Supplemental street sweeping	Can report quantitative reduction in pounds for TP or TSS Enter BMP annually in the E-service as credit towards progress in meeting wasteload allocations
Chemical treatment of Stormwater	
Pollution Prevention-Municipal	No quantitative reduction reporting Enter completed BMP annually in E-service
Enhanced deicing salt management	
Eliminate illicit discharge/ connection (existed prior to baseline year of TMDL)	
Establish or enhance ordinances	
Impervious disconnection	

2020 MS4 General Permit –Reporting

New BMPs: Completed

Choose a BMP Subtype from the drop down:

Enter your unique BMP ID and Description

Are you partnering with another MS4?

BMP Types	BMP Subtypes
Pollution Prevention Municipal	Natural Resource Management
Pollution Prevention Municipal	Wind Erosion Control
Pollution Prevention Municipal	Better Turf Management
Pollution Prevention Municipal	Public Education
Pollution Prevention Municipal	Other (must describe)

2020 MS4 General Permit –Reporting

New BMPs: Completed

Choose TMDL project-pollutant
from drop down

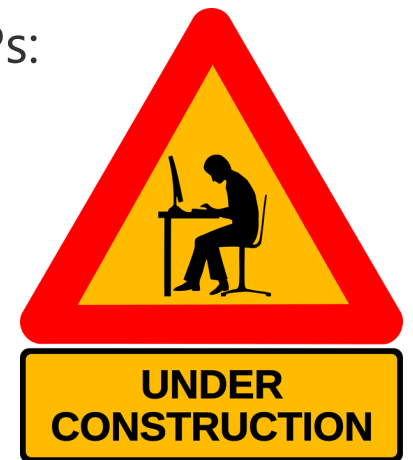
BMP Types	BMP Subtypes
Pollution Prevention Municipal	Natural Resource Management

01. Permittee name	Saint Cloud city of
TMDL Project- Pollutant	
Lake Pepin, Mississippi River, and Minnesota River Eutrophication TMDL - Phosphorus, Total (as P)	
Miss. River - Saint Cloud WRAPS 2009 - Phosphorus, Total (as P)	
Mississippi River - St. Cloud WRAPS 2019 - Escherichia coli	
Sauk River Watershed WRAPS 2018 - Phosphorus, Total (as P)	
South Metro Mississippi TSS TMDL - Solids, Total Suspended (TSS)	
Upper Mississippi River Bacteria TMDL - Escherichia coli	

2020 MS4 General Permit –Reporting Recap

Oxygen demand, Nitrate, Total Suspended Solids (TSS), or Total Phosphorus (TP):

- Updates on BMPs included in the compliance schedule submitted by the permittee as part of the application for the 2020 MS4 general permit
- Implemented BMPs for each applicable WLA since the Total Maximum Daily Load (TMDL) baseline year, including:
 - BMP type, BMP subtype (see [list here](#)), year when BMP was implemented and associated TMDL.
- Additionally, for constructed basins, filtration, infiltration, stormwater reuse BMPs:
 - Any MS4 permittee partners for that practice
 - Location (i.e., geographic coordinates)
 - Quantitative pollutant reductions per BMP
- For street sweeping and chemical treatment of stormwater practices:
 - Quantifying reductions is optional



Approved TMDLs since 2020 Permit

Approved TMDLs since November 16, 2020

Blue Earth River WRAPS 2017

Cottonwood River WRAPS 2017

Des Moines River Watershed WRAPS/TMDL

Duluth Area Beaches TMDL

Duluth Urban Streams WRAPS 2014



Lake Pepin, Mississippi River, and Minnesota River
Eutrophication TMDL

Lake Winona TMDL Project

Miss. River - Sartell WRAPS 2016

Mississippi River - St. Cloud WRAPS 2019

North Fork Crow River WRAPS 2017

Otter Tail River WRAPS 2016

Redwood River Eutrophication TMDL

Redwood River WRAPS 2017

Sauk River Watershed WRAPS 2018

Shell Rock River WRAPS 2009

Upper Mississippi River TSS TMDL - 2019

- Should expect to be contacted during TMDL development
- Should get a notification when the TMDL goes on public notice
- Start tracking your BMPs

TMDLS are forever

Determine a waterbody is impaired → Complete a TMDL

→ Reporting and performance requirements for MS4s

→ Best management practices → Water quality standards met again



→ *Delisting*

Resources – Minnesota Stormwater Manual

Total Maximum Daily Loads (TMDLs) - Minnesota Stormwater Manual

TMDL MS4 permit guidance

- [Guidance for completing the TMDL reporting form](#)
- [Phase I MS4 Guidance for completing the TMDL Annual report form](#)
- [Forms, guidance, and resources for completing the TMDL annual report form](#)
- [Page with link to many TMDL GIS shapefiles](#)
- [Summary of TMDL requirements in stormwater permits](#)
- [Guidance for meeting chloride TMDL MS4 permit requirements](#)
- [Guidance for meeting bacteria TMDL MS4 permit requirements](#)
- [Guidance for meeting dissolved oxygen or oxygen demand TMDL MS4 permit requirements](#)
- [Guidance for meeting temperature TMDL MS4 permit requirements](#)
- [Guidance for categorical TMDLs](#)
- [List of Approved TMDLs with MS4 WLAs](#)
- [Guidance for completing the MS4 Permit TMDL Application Form](#)
- [MS4 webinars and videos](#)
- [Baseline year](#)
- [Interpreting wasteload allocations based on flow/load duration curves](#)
- [Information about the 2019 Legislation and affected MS4s](#)

Questions?



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